

① Solve for  $x$

①  $\frac{3(x-2)}{4} = 17$

②  $4 - 2(x+5) = -4$

③  $y = 4 - 3x$

② Kelly was racing her little brother, John. She gave him a 25 foot head start. Kelly can sprint 22 ft/sec. and John can sprint 10 ft/sec.

① Write two equations to model their distances for any given time.

② What is the real-world meaning of the numbers in your equations.

③ If they are racing 100 feet, who wins, by how much?

$$\frac{3(x-2)}{4} = 17$$

$$\begin{array}{rcl} \times & 17 & \\ -2 & \cdot 4 & = 68 \\ \cdot 3 & \div 3 & = 22.\overline{66} \\ \div 4 & +2 & = 24.\overline{66} \\ = 17 & & \end{array}$$

$x = -$

$$4 - 2(x+5) = -4$$

$$\begin{array}{rcl} \times & -4 & \\ +5 & -4 & = -8 \\ \cdot -2 & \div -2 & = 4 \\ +4 & -5 & \\ = -4 & & \end{array}$$

$x = -1$

$$y = 4 - 3x$$

$$\begin{array}{rcl} \times & y-4 & \\ \cdot -3 & \div -3 & \\ +4 & & \\ = y & = x & \end{array}$$

$$x = \frac{y-4}{-3}$$

Kelly	
sec X	ft. Y
0	0
1	22
2	44
3	66

$$Y = 22X$$

ft. ← (pointing to Y)  
 ↓  
 ft/sec  
 rate  
 (pointing to 22)  
 time  
 sec (pointing to X)

John

x	y
0	25 > 10
1	35 > 10
2	45 > 10
3	55

$$Y = 10X + 25$$

↓  
 start (pointing to 25)

① Six students order onion rings. The mean number of onion rings they get is 15.5.

The 5-number summary is 9, 11, 15, 21, 22.

How many rings might each student have been served?



## Try these

A student took 6 tests. Here are 5 scores!

78, 93, 85, 70, 72. If the mean of the 6 tests is 77, what is the missing score?

$$\frac{78 + 85 + 93 + 70 + 72 + x}{6} = 77$$

$$\frac{398 + x}{6} = 77$$

$$\begin{array}{r} 77 \\ \cdot 6 \\ \hline \end{array}$$

$$- 398$$

$$x = 64$$

Same? with 5 tests, mean = 75.6

72, 81, 66, 83, x

302

$$\frac{302 + x}{5} = 75.6$$

75.6

• 5

- 302

$$x = 76$$



$$2x + 3 = 7$$

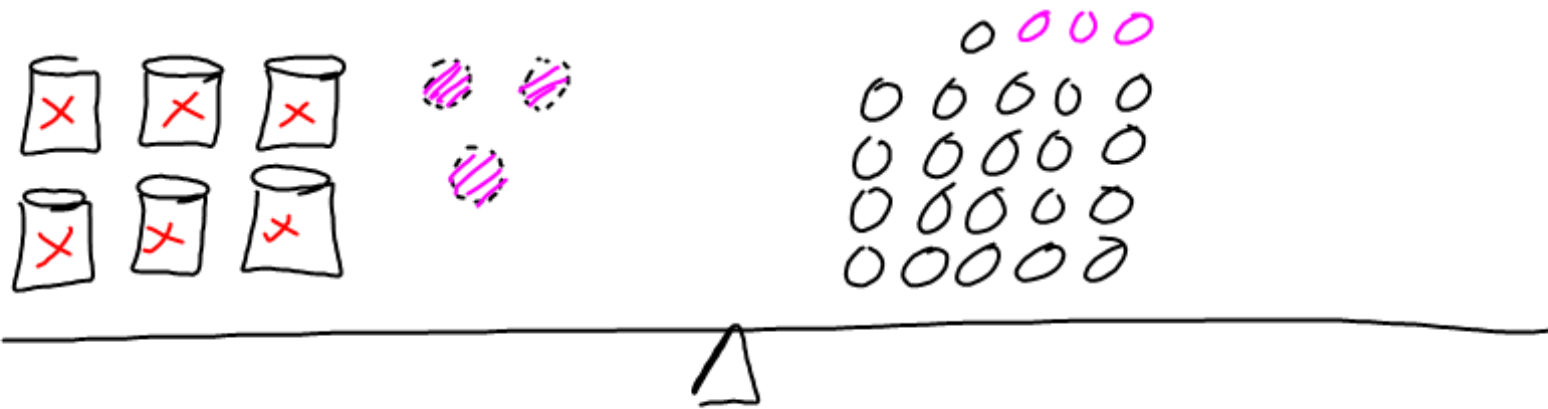
$$\square = \circ \circ$$



$$\begin{array}{rcl}
 4x + 5 & = & 33 \\
 -5 & & -5
 \end{array}$$

$$\frac{4x}{4} = \frac{28}{4}$$

$$\boxed{x = 7}$$

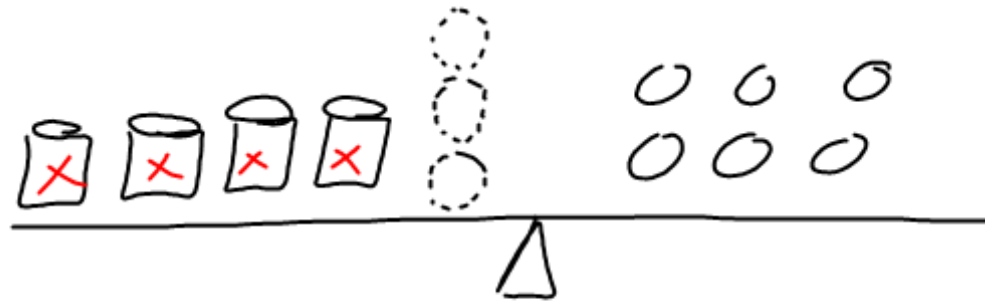


$$6x - 3 = 21$$

$$+3 \quad +3$$

$$\frac{6}{6}x = \frac{24}{6}$$

$$x = 4$$



$$\begin{array}{rcl} 4x - 3 & = & 6 \\ +3 & & +3 \end{array}$$

$$\frac{4x}{4} = \frac{9}{4}$$

$$x = 2.25$$

$$\begin{array}{rcl} 4x - 2 & = & 3x + 1 \\ -3x & & -3x \end{array}$$

$$\begin{array}{rcl} 1x - 2 & = & 1 \\ +2 & & +2 \end{array}$$

$$1x = 3$$

# Homework

① Solve for x

① (a)  $3x + 5 = 7x + 29$

① (b)  $\frac{4 - 5(x + 2)}{6} = 3$

② What is the missing score if the mean is 8  
3, 7, 4, 19, 8, 4, 12, X

③ Make Box Plots

③ (a) 5, 2, 4, 0, 2, 1, 0

③ (b) 3, 4, 8, 0, 3, 2